
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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VANADIUM IN NOVEMBER 1996

The total reported consumption of vanadium in November increased by about 9% from consumption in October, according to the U.S. Geological Survey. Decreases ranging from 4% in the high-strength low-alloy steel end use category to 11% in the stainless and heat-resisting end use category were more than offset by a 47% increase in the carbon steel end use category. Consumption in the tool steel end use category, a relatively large consuming sector, was down by about 7%. Total consumption in November was 364 metric tons, about 13% more than consumption in November 1995. The year-to-date consumption through November 1996 was 4,100 tons, about 6% more than consumption for the same period in 1995.

Update: Defense Logistics Agency Awards V_2O_5

Five companies bid on a total of 2,565,660.5 pounds of vanadium pentoxide (V_2O_5) at the Defense Logistics Agency (DLA) auction on January 9, 1997. Bids ranged from \$3.09-3.32 per pound V_2O_5 . Bidders at the auction were: Pechiney World Trade, 578,054.2 lbs at \$3.30-3.32 per pound; Aimcor, 1,154,851.2 lbs at \$3.09; Reading Alloys, 256,118.4 lbs at \$3.102-3.152 per pound; MRM, 320,396.8 lbs at \$3.152 per pound and Considar, 256,240 lbs at \$3.21-3.24 per pound. On January 16, 1997, DLA announced the award of V_2O_5 to Pechiney World Trade, Greenwich, CT. The award included

129,304.4 pounds of V_2O_5 at a unit price of \$3.32 per pound and 192,214.4 pounds at a unit price of \$3.30 per pound. Total value of the award was \$1,063,598.13. Meanwhile, the open market price for V_2O_5 in the United States firmed to \$3.23-3.30 per pound while ferrovanadium was steady at \$7.40-7.60 per pound V content. DLA is authorized to sell 4 million pounds of V_2O_5 in fiscal 1997. Vanadium pentoxide is offered for sale on the fourth Thursday of each month. Bids are due by 10:00 a.m. at 8725 John J. Kingman Road, Suite 3339 (mail) or Suite 428 (hand delivery), Fort Belvoir, VA 22060-6223. Requests for copies of the invitation and other inquiries should be directed to Kerri Chambers at (703) 767-5498.

Chinese Ferroalloy Joint Venture Established

Shangxiang Minmetals Trading Ltd, a Chinese company incorporated in Hong Kong, and China's Emi Ferroalloys Co. have established a new 50:50 joint venture, Sinoferro Ltd. The company will be active in the ferroalloys business and handle substantial quantities of ferrovanadium and other ferroalloys. Shangxiang will also be in charge of ore and concentrates imports.¹

¹Platt's Metals Week, Nov. 18, 1996, p. 9.

TABLE 1
U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM, IN 1996 1/

(Kilograms, contained vanadium)

	October		November	
	Consumption	Stocks	Consumption	Stocks
Ferrovandium 2/	290,000 r/	286,000 r/	320,000	332,000
Oxide	1,120	6,610	1,120	6,610
Vanadium-aluminum alloy	W	12,500 r/	W	10,100
Vanadium chemicals 3/	W	W	W	W
Other 4/	41,500 r/	5,460 r/	42,900	5,540
Total	333,000 r/	311,000 r/	364,000	354,000

r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

3/ Includes vanadates, chlorides and other specialty chemicals.

4/ Includes other vanadium alloys, vanadium metal, and items indicated by symbol "W."

TABLE 2
U.S. CONSUMPTION OF VANADIUM, BY END USE 1/

(Kilograms, contained vanadium)

	1995	1996		
		October	November	Year to date p/ 2/
Steel:				
Carbon	1,870,000	83,300 r/	123,000	1,480,000
Stainless and heat-resisting	31,800	1,810	1,610	20,000
Full alloy	833,000	75,300 r/	73,700	974,000
High-strength low-alloy	1,070,000	80,800 r/	77,600	844,000
Tool	443,000	46,200 r/	42,900	372,000
Unspecified	W	--	--	--
Total steel	4,240,000	287,000 r/	319,000	3,690,000
Cast irons	39,600	W	W	W
Superalloys	20,400	1,140 r/	1,220	15,700
Alloys (excluding steels and superalloys):				
Cutting and wear-resistant materials	271	20	20	225
Welding and alloy hard-facing rods and materials	3,440	W	W	W
Nonferrous alloys	W	W	W	W
Other alloys 3/	307,000	W	W	W
Chemical and ceramic uses:				
Catalysts	W	W	W	W
Other 4/	W	W	W	W
Miscellaneous and unspecified	20,200	43,900 r/	44,100	394,000
Total consumption	4,640,000	333,000 r/	364,000	4,100,000

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include revisions to previous months' data.

3/ Includes magnetic alloys.

4/ Includes pigments.

TABLE 3
U. S. EXPORTS OF ALUMINUM-VANADIUM MASTER ALLOY, FERROVANADIUM, OXIDES
AND HYDROXIDES OF VANADIUM, AND VANADIUM METAL IN OCTOBER 1996 1/

(Kilograms, vanadium content unless otherwise specified)

Material and country	Quantity	Value	Year to date p/	
			Quantity	Value
Aluminum-vanadium master alloy: 2/				
Argentina	--	--	1,080	\$14,000
Australia	--	--	499	6,380
Austria	--	--	3,540	36,700
Barbados	4,930	\$64,100	18,900	237,000
Canada	7,820	102,000	91,600	1,120,000
Chile	--	--	770	10,000
France	2,980	38,800	2,980	38,800
Germany	--	--	4,420	65,400
Ireland	--	--	782	14,600
Japan	--	--	20,100	313,000
Korea, Republic of	--	--	3,270	42,500
Malaysia	--	--	897	11,700
Mexico	8,080	105,000	30,300	400,000
Philippines	--	--	409	5,310
Russia	--	--	15,200	274,000
Suriname	--	--	139	6,460
Switzerland	--	--	571	7,420
United Kingdom	19,900	341,000	68,500	1,200,000
Venezuela	--	--	3,810	49,600
Total	43,700	650,000	268,000	3,850,000
Ferrovanadium:				
Australia	--	--	546	6,830
Canada	29,900	549,000	249,000	4,510,000
Mexico	5,710	157,000	114,000	2,250,000
Venezuela	--	--	2,300	76,800
Total	35,600	705,000	366,000	6,840,000
Vanadium pentoxide (anhydride): 3/				
Austria	--	--	4,340	41,200
Belgium	--	--	7,850	103,000
Chile	--	--	18	2,680
France	4,040	27,800	4,040	27,800
Italy	--	--	90,500	783,000
Japan	--	--	13,800	126,000
Kuwait	--	--	4,970	34,300
Mexico	--	--	4,700	46,500
Pakistan	--	--	6,040	83,600
Peru	--	--	2,260	10,400
Taiwan	--	--	632	6,000
United Kingdom	--	--	40,100	331,000
Total	4,040	27,800	179,000	1,600,000
Other oxides and hydroxides of vanadium:				
Argentina	--	--	360	3,200
Australia	--	--	675	6,000
Canada	51,300	365,000	238,000	1,720,000
France	--	--	15,200	128,000
Germany	--	--	6,290	67,300
Italy	--	--	17,200	137,000
Japan	--	--	100	3,610
Russia	--	--	12,300	110,000
South Africa	--	--	61,100	474,000
Spain	--	--	2,210,000	9,030,000
Switzerland	--	--	13,800	74,100
Total	51,300	365,000	2,580,000	11,800,000
Vanadium metal, including waste and scrap: 2/				
Australia	--	--	2,320	92,000
Austria	6,060	236,000	6,060	236,000
Canada	--	--	1,750	46,700
France	8,660	344,000	8,660	344,000
Germany	--	--	636	18,100
Taiwan	--	--	131	11,900
United Kingdom	--	--	84,800	578,000
Total	14,700	580,000	104,000	1,330,000

p/ Preliminary.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Gross weight.

3/ May include catalysts containing vanadium pentoxide.

Source: Bureau of the Census.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF ALUMINUM-VANADIUM MASTER ALLOY,
FERROVANADIUM, OXIDES AND HYDROXIDES OF VANADIUM, AND VANADIUM METAL IN OCTOBER 1996 1/

(Kilograms, vanadium content unless otherwise specified)

Material and country	Quantity	Value	Year to date p/ 2/	
			Quantity	Value
Aluminum-vanadium master alloy: 3/				
Germany	--	--	1,610	\$16,500
Russia	--	--	4,200	136,000
Ferrovandium:				
Austria	13,800	\$223,000	45,100	718,000
Belgium	--	--	62,700	947,000
Canada	44,700	686,000	535,000	8,300,000
China	75,700	1,080,000	216,000	3,030,000
Czech Republic	31,300	449,000	404,000	5,640,000
Germany	--	--	2,690	32,300
Russia	--	--	70,400	1,440,000
South Africa	48,100	724,000	188,000	2,840,000
Tajikistan	--	--	40,500	626,000
Total	214,000	3,170,000	1,570,000	23,600,000
Vanadium pentoxide (anhydride): 4/				
China	--	--	40,800	329,000
France	--	--	10,200	252,000
Germany	--	--	517	21,700
Hong Kong	--	--	198	18,700
South Africa	30,700	380,000	331,000	4,110,000
United Kingdom	--	--	4	27,200
Total	30,700	380,000	382,000	4,760,000
Other oxides and hydroxides of vanadium:				
France	--	--	304	48,600
Germany	--	--	1	2,610
United Kingdom	--	--	6,030	76,000
Total	--	--	6,340	127,000
Vanadium metal, including waste and scrap: 3/				
France	--	--	90	8,500
Germany	12,300	127,000	32,300	567,000
Russia	--	--	1,150	92,900
United Kingdom	1	5,570	5	15,900
Total	12,300	132,000	33,500	684,000

p/ Preliminary.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include revisions to previous months' data.

3/ Gross weight.

4/ May include catalysts containing vanadium pentoxide.

Source: Bureau of the Census.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING
ASH, SLAG AND RESIDUES IN OCTOBER 1996 1/

(Kilograms, vanadium pentoxide content)

Material and country	Quantity	Value	Year to date p/	
			Quantity	Value
Ash and residues:				
Canada	15,500	\$11,000	189,000	\$544,000
Germany	2,580	2,110	5,150	3,960
Mexico	58,700	240,000	555,000	1,930,000
Netherlands	--	--	7,760	2,670
Netherlands Antilles	--	--	87,900	168,000
Portugal	--	--	7,130	6,470
United Kingdom	--	--	14,800	3,260
Total	76,800	254,000	866,000	2,660,000
Ash and residues (not from the manufacture of iron and steel):				
Canada	147,000 2/	32,400 2/	1,350,000	307,000
Slag, from the manufacture of iron and steel:				
South Africa	--	--	879,000	3,390,000
Other residues: (Not advanced in value)	--	--	--	--

p/ Preliminary.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF MISCELLANEOUS
VANADIUM CHEMICALS IN OCTOBER 1996 1/

(Kilograms, vanadium content)

Material and country	Quantity	Value	Year to date p/ 2/	
			Quantity	Value
Sulfates:				
India	--	--	25	\$14,900
Vanadates:				
Germany	95 3/	\$1,940	3,440	74,600
South Africa	11,100	78,200	57,300	398,000
Switzerland	--	--	99	1,260
Total	11,200	80,100	60,800	473,000
Hydrides and nitrides:				
South Africa	--	--	255,000	4,630,000

p/ Preliminary.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include revisions to previous months' data.

3/All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.